FIG. 1

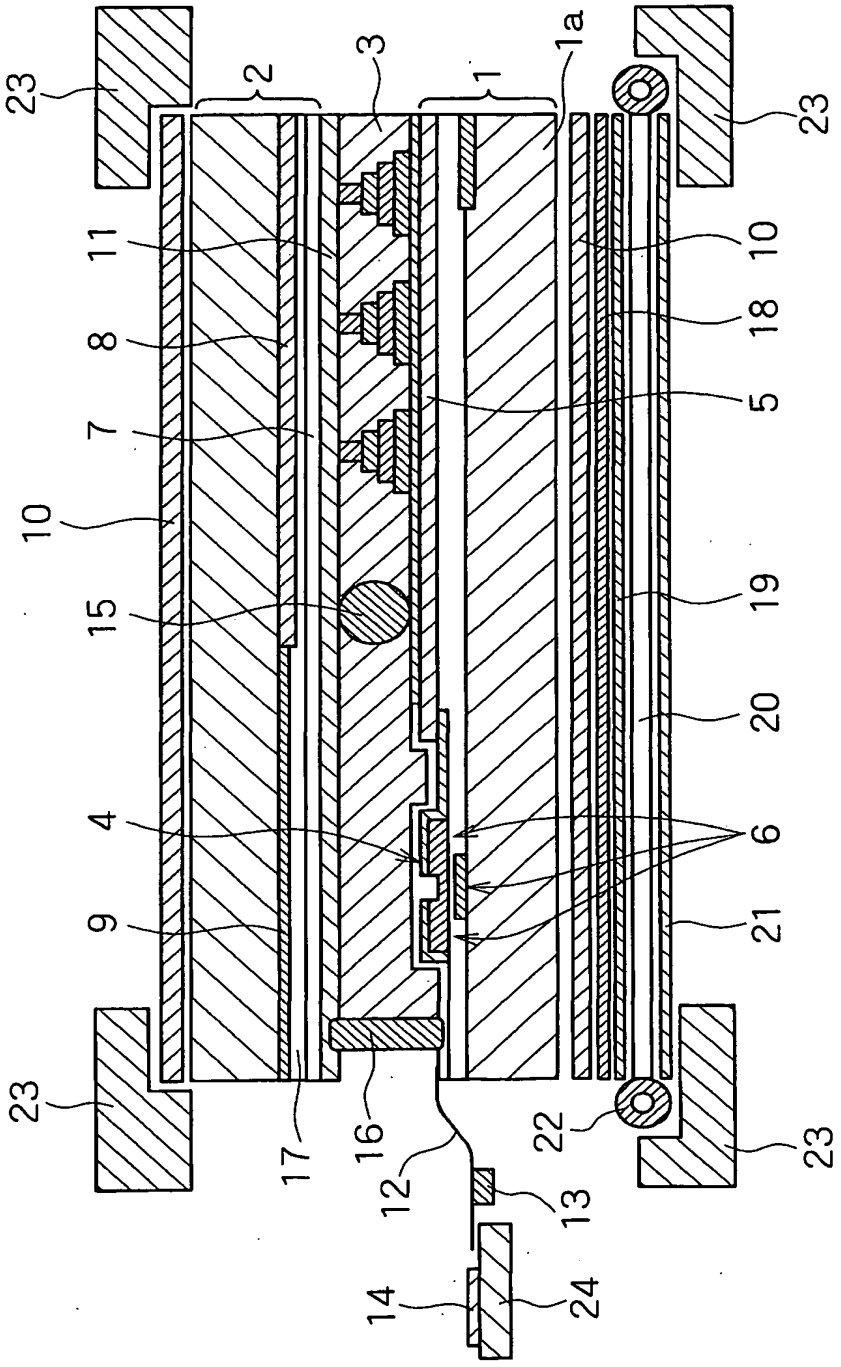


FIG.2

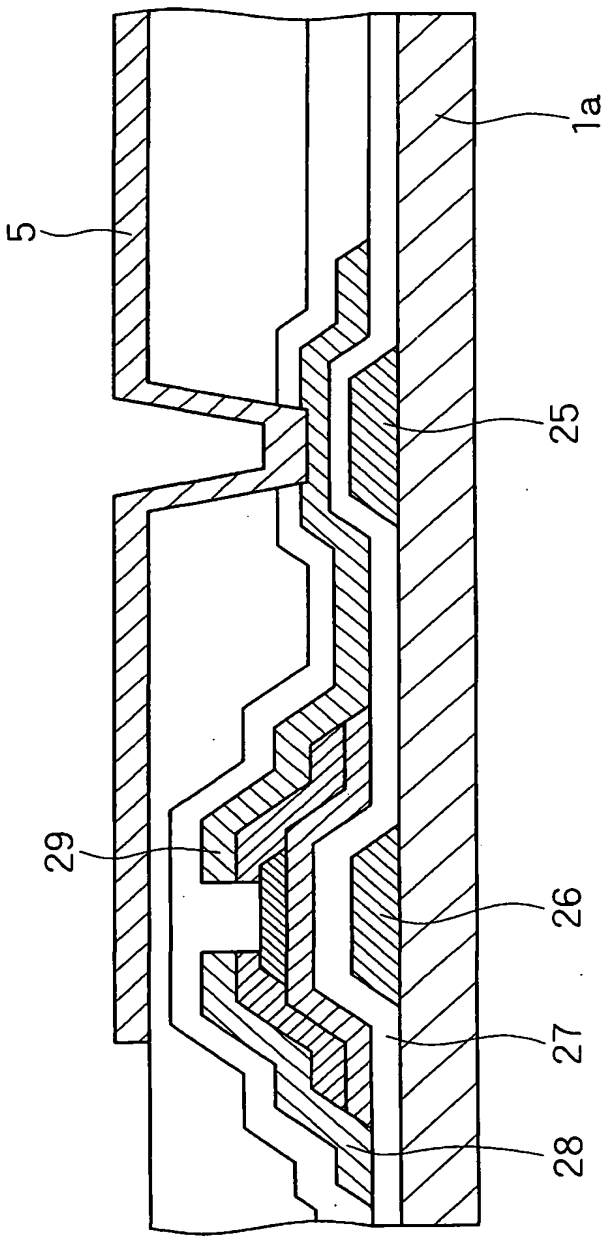


FIG. 3

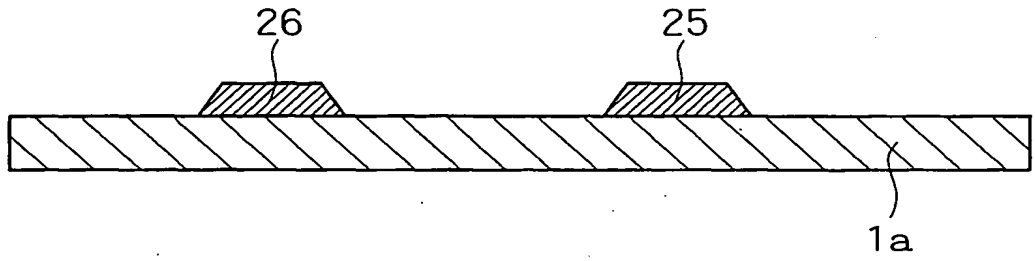


FIG. 4

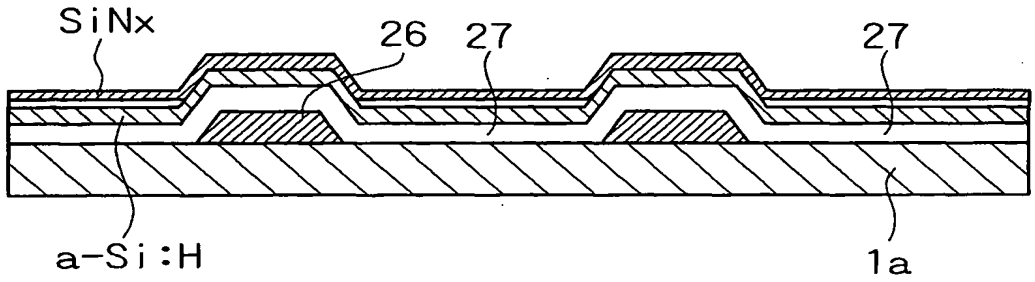


FIG. 5

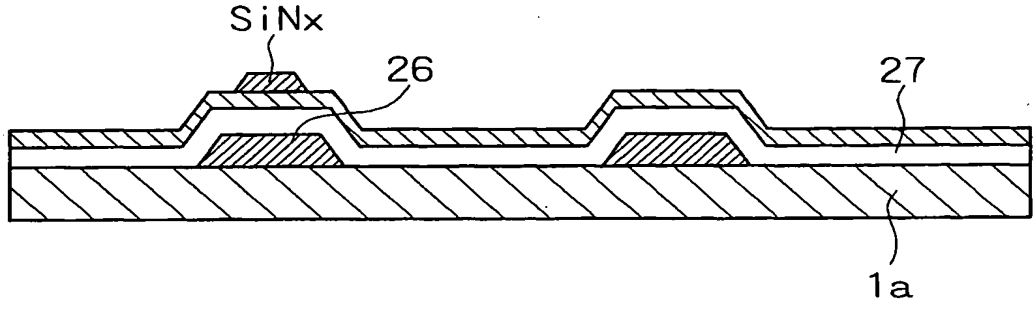


FIG. 6

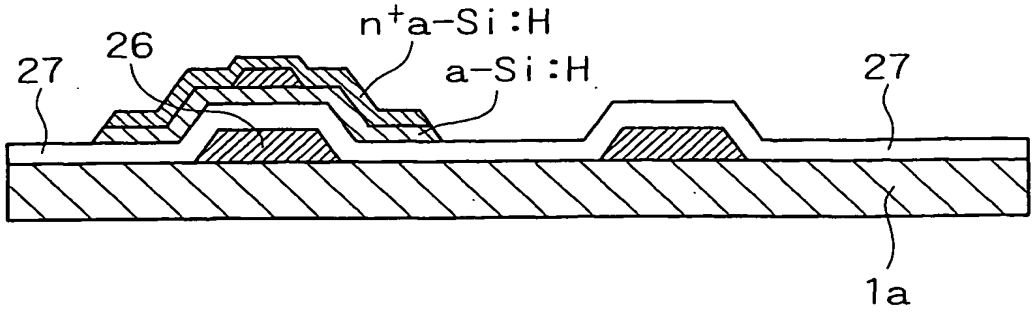


FIG. 7

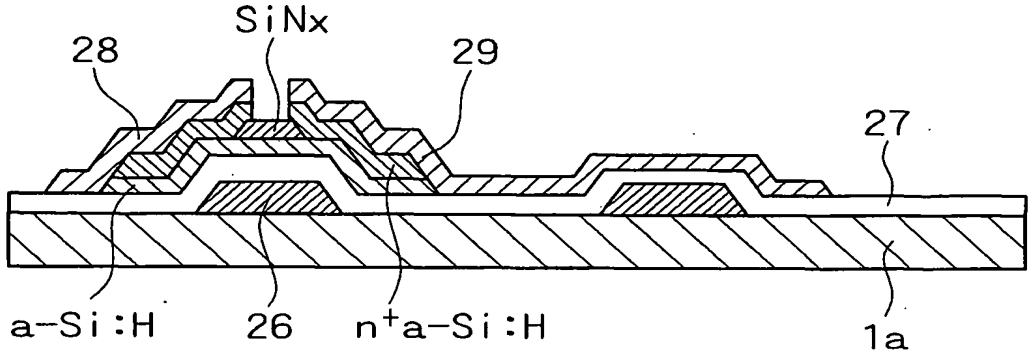


FIG. 8

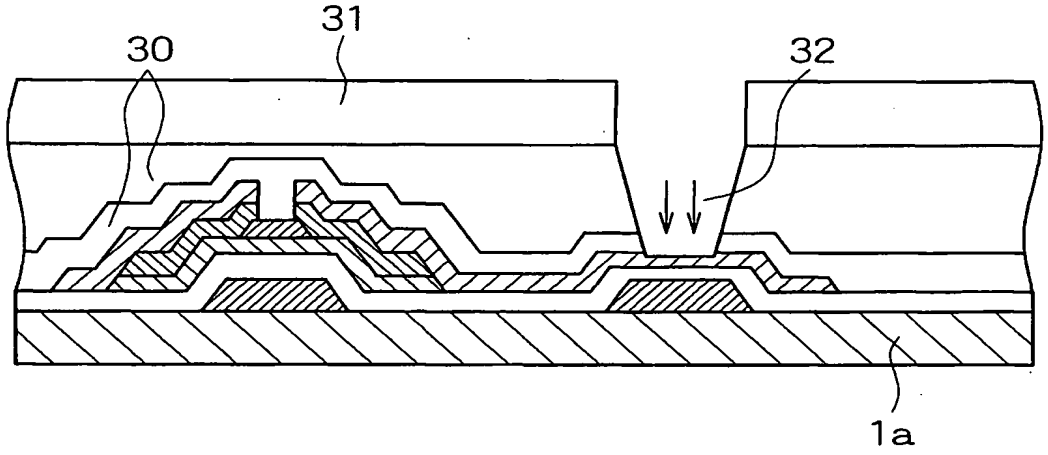


FIG. 9

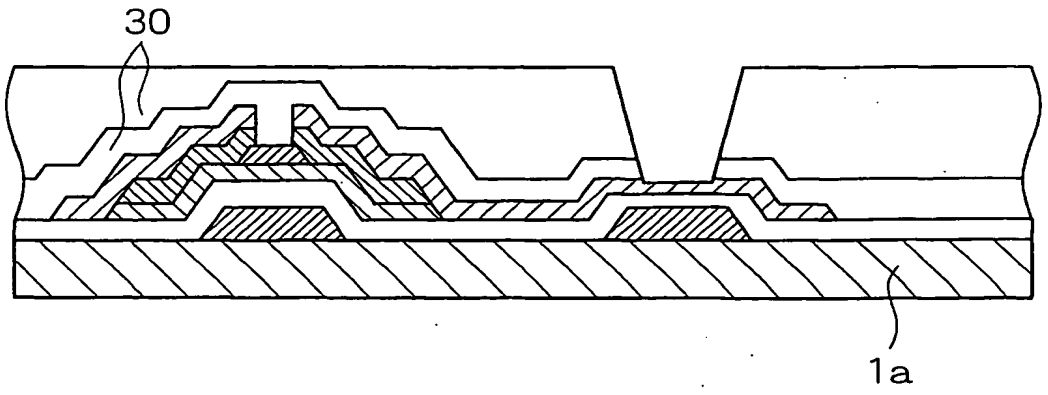


FIG.10

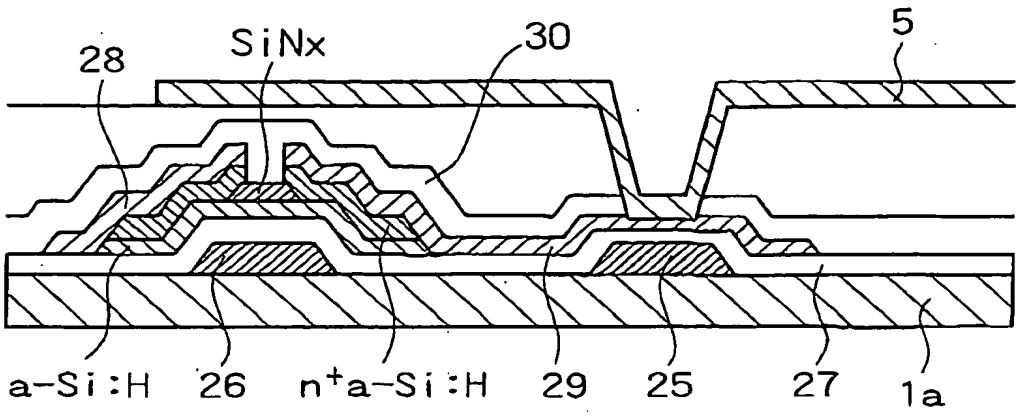


FIG.11

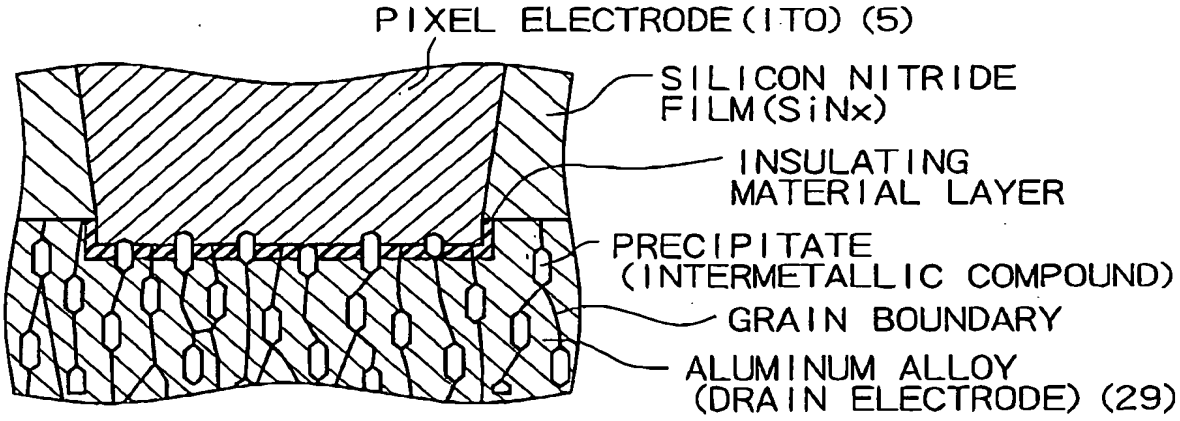


FIG.12

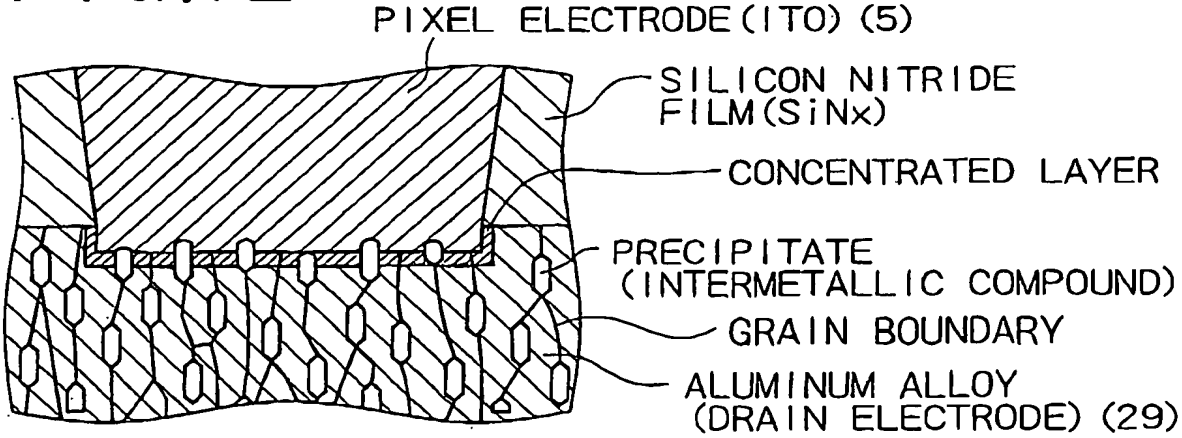


FIG.13

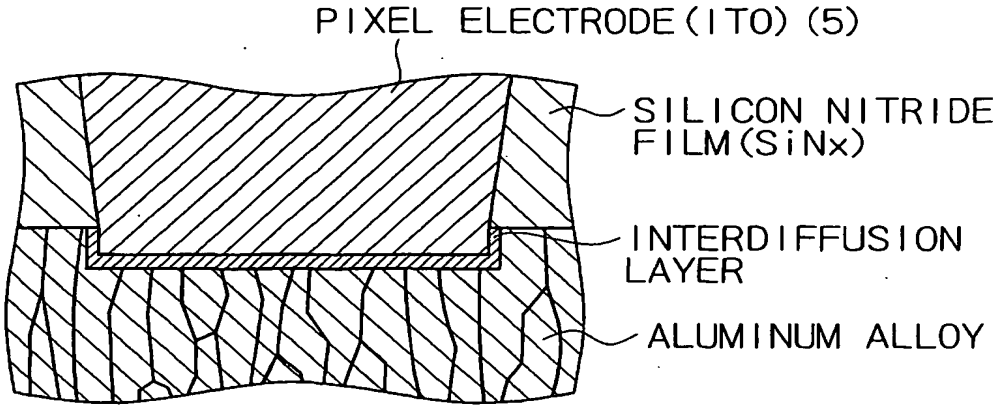


FIG.14

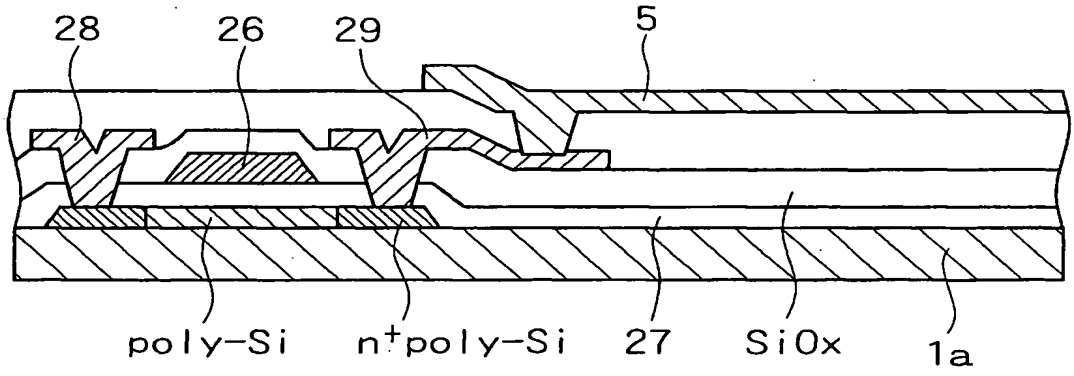


FIG.15

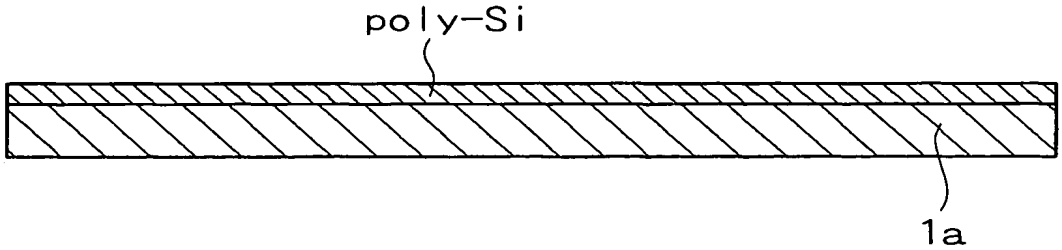


FIG.16

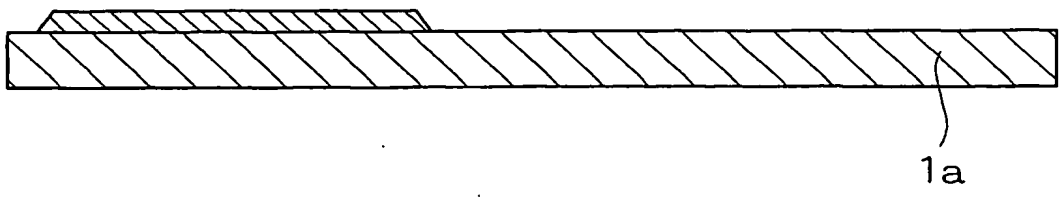


FIG.17

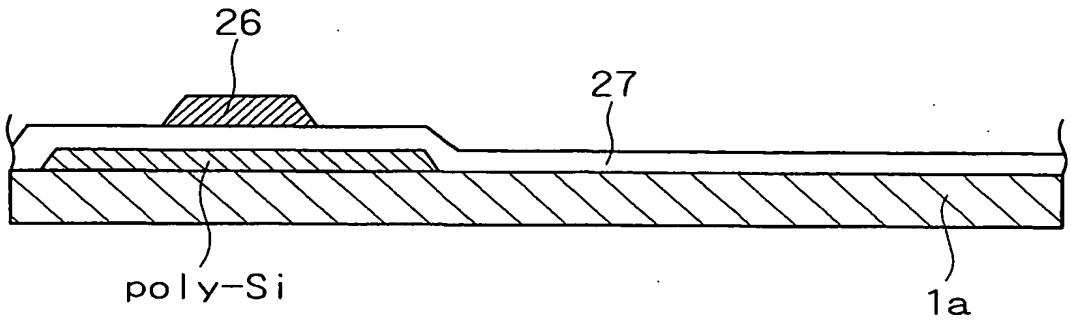


FIG.18

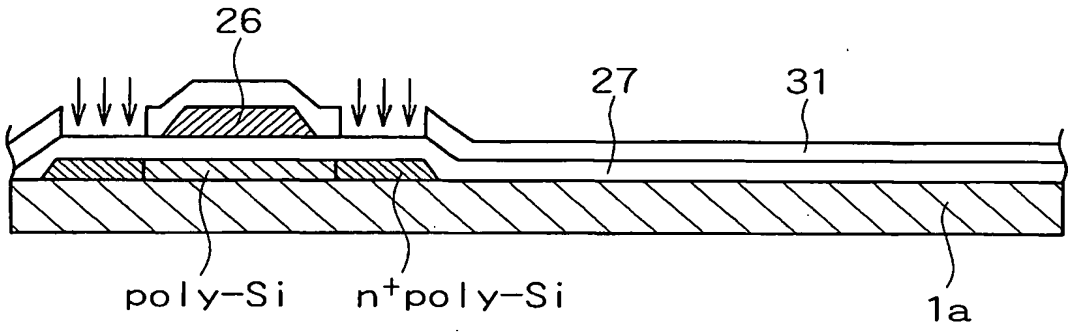


FIG.19

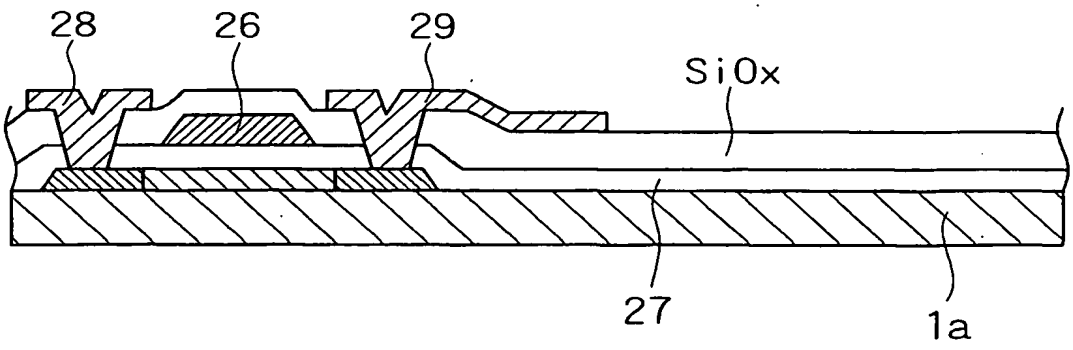


FIG. 20

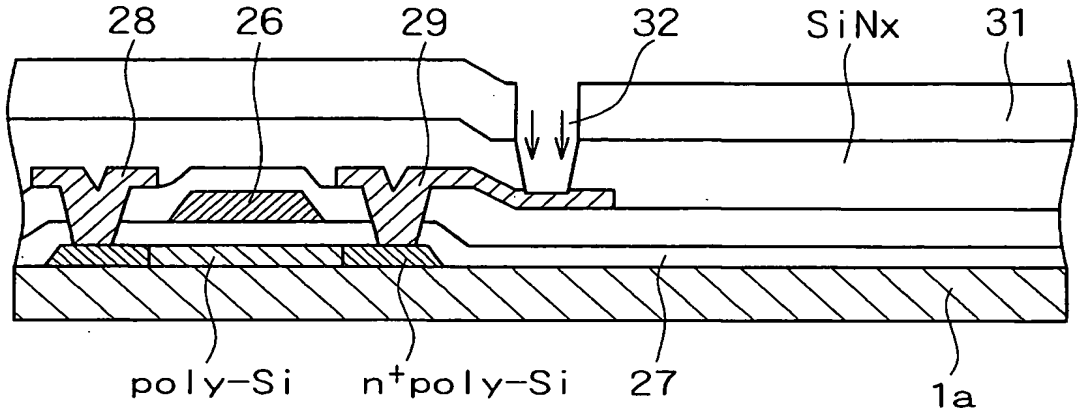


FIG. 21

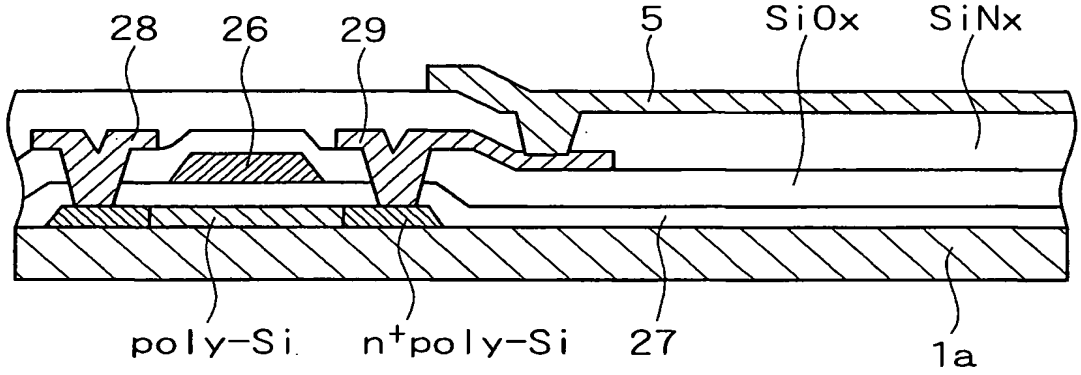


FIG. 22

TEG PATTERN

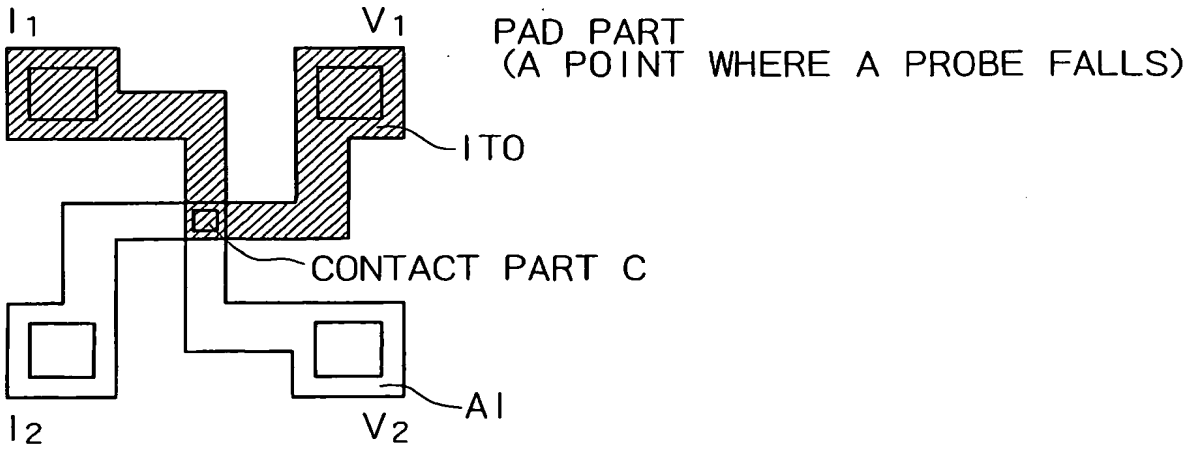


FIG. 23

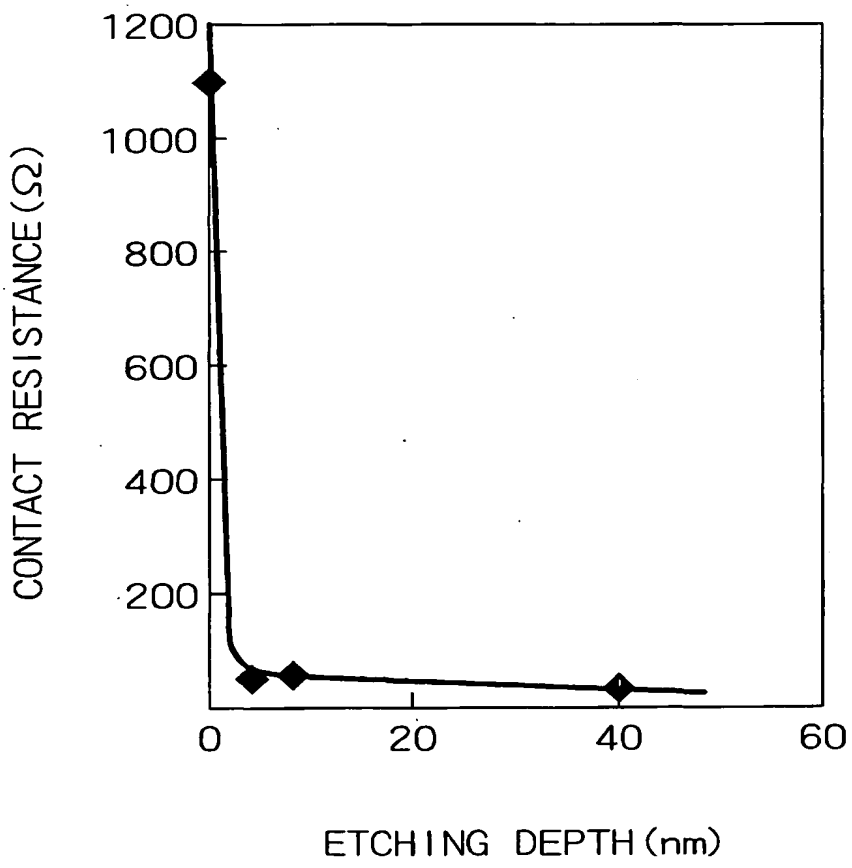

1200
1000
800
600
400
200
CONTACT RESISTANCE (Ω)
0
20
40
60
ETCHING DEPTH (nm)

FIG. 24A

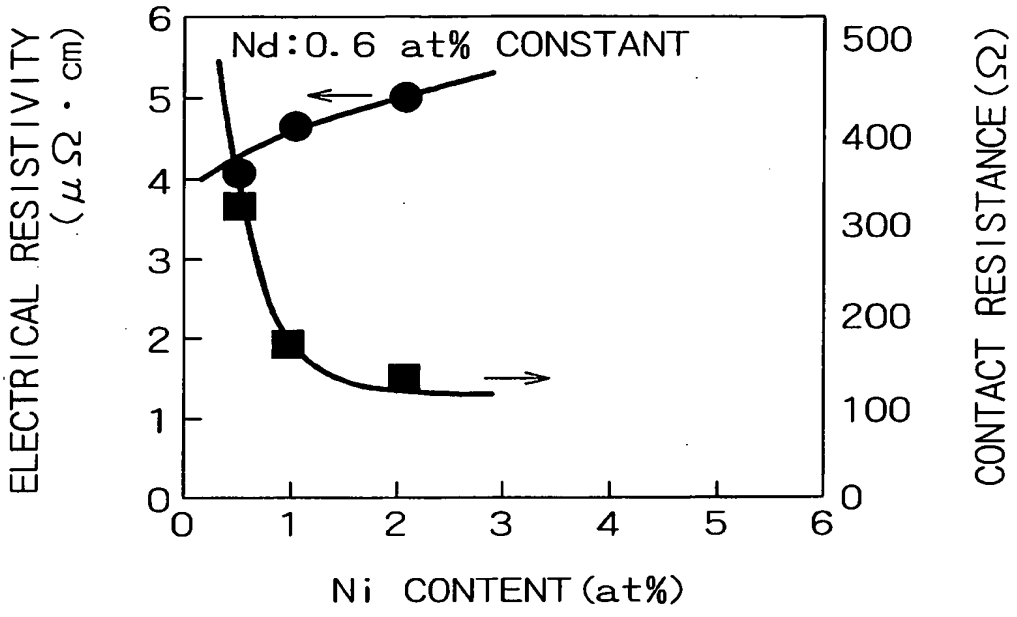


FIG. 24B

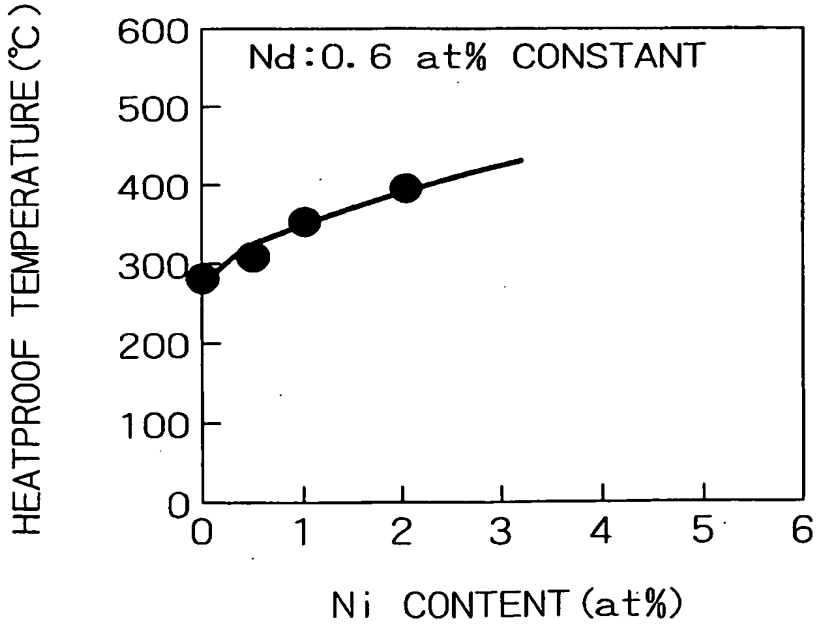


FIG. 25A

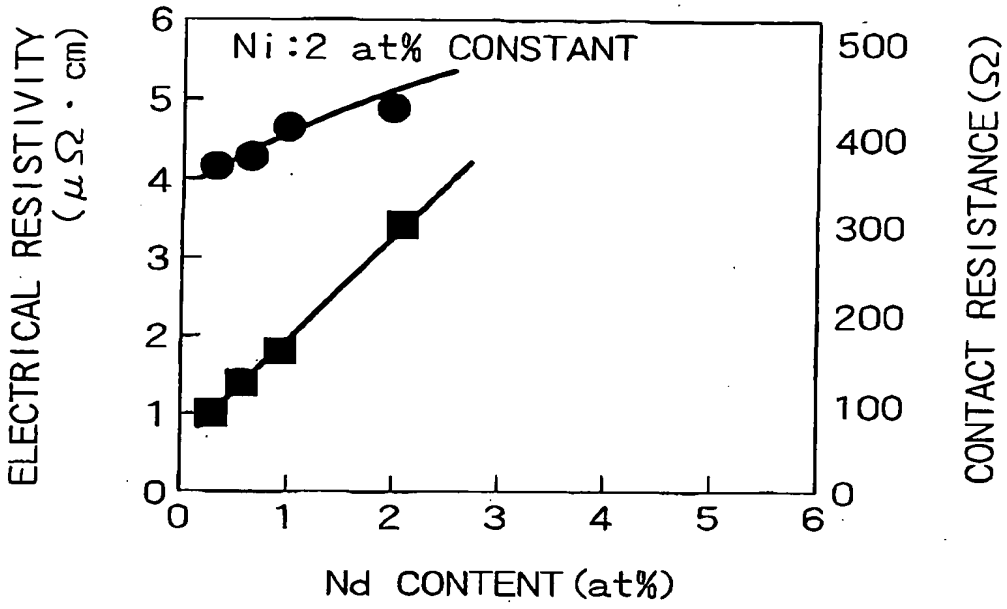


FIG. 25B

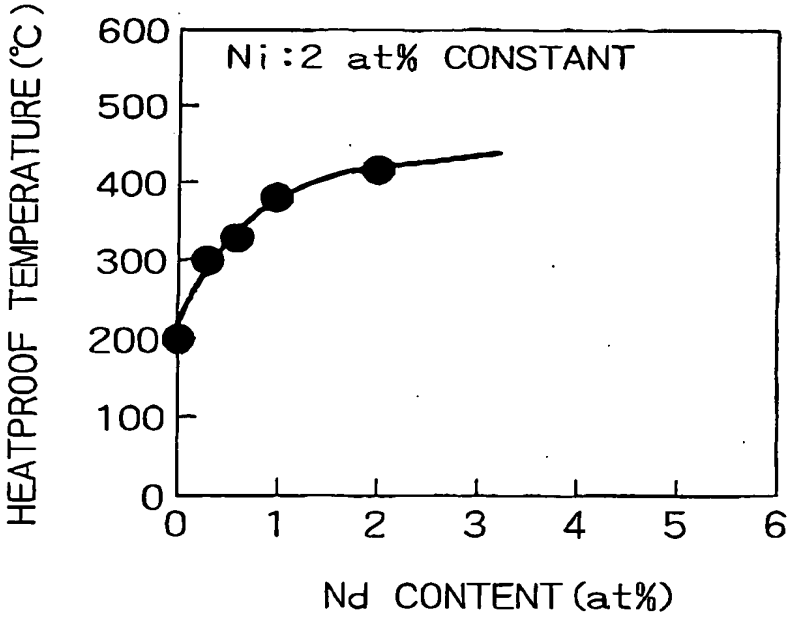


FIG. 26

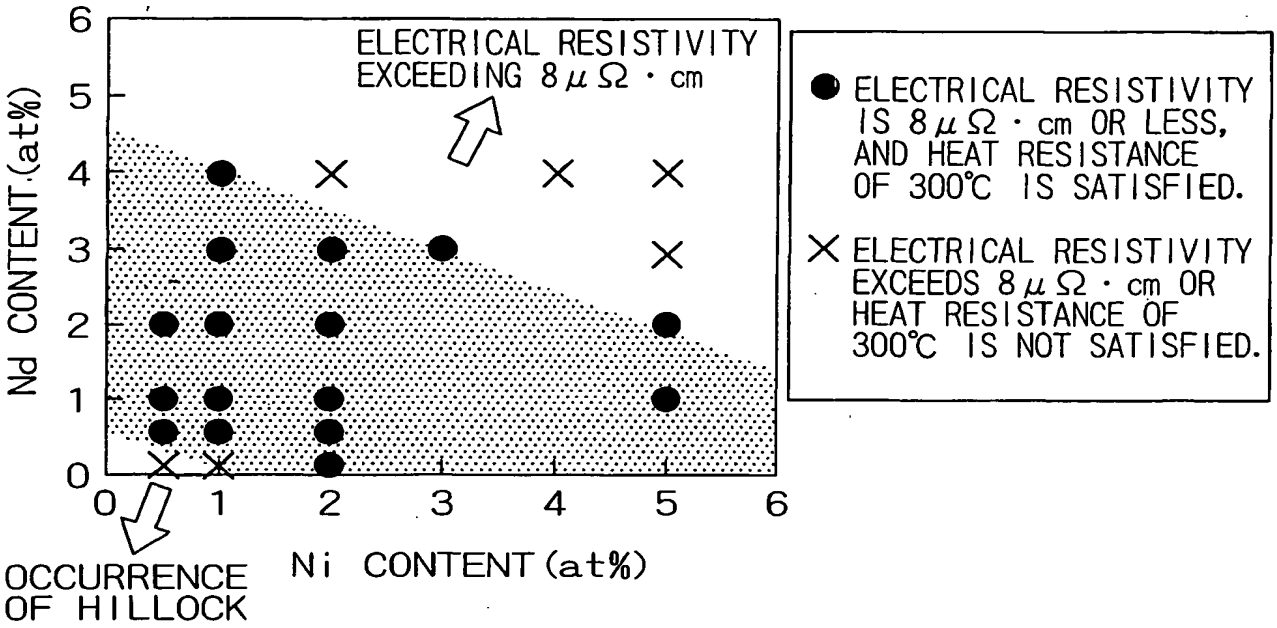

ELECTRICAL RESISTIVITY EXCEEDING 8μΩ・cm
Nd CONTENT (at%)
Ni CONTENT (at%)
OCCURRENCE OF HILLOCK
● ELECTRICAL RESISTIVITY IS 8μΩ・cm OR LESS, AND HEAT RESISTANCE OF 300℃ IS SATISFIED.
× ELECTRICAL RESISTIVITY EXCEEDS 8μΩ・cm OR HEAT RESISTANCE OF 300℃ IS NOT SATISFIED.

FIG. 27

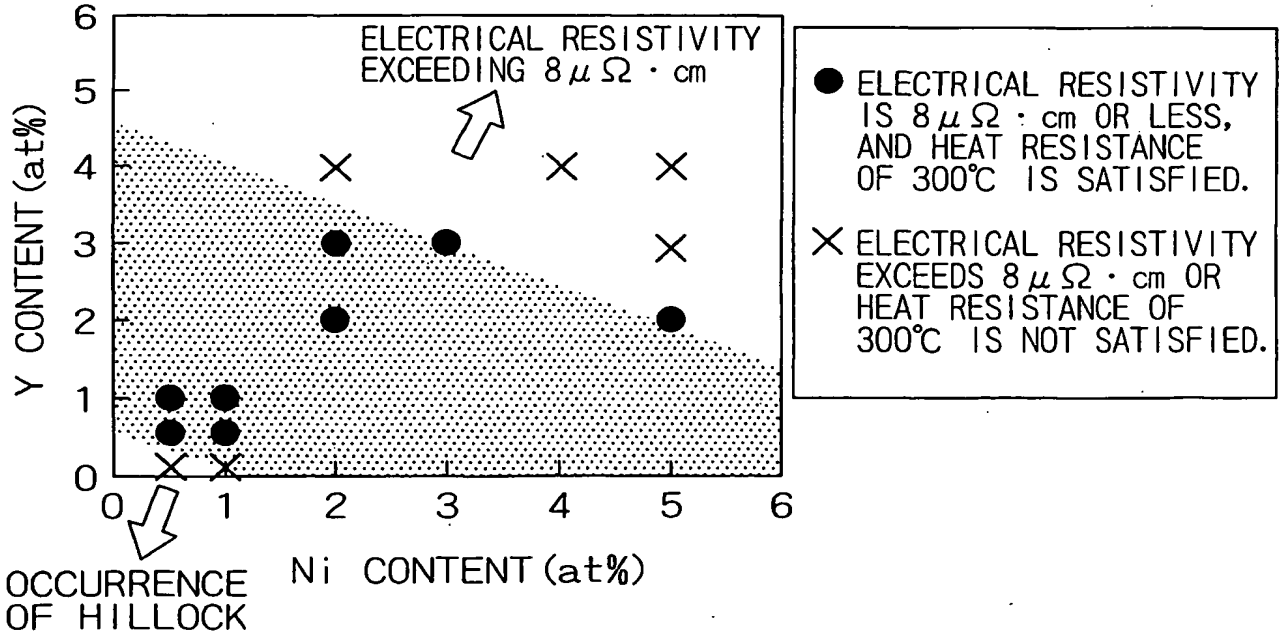

ELECTRICAL RESISTIVITY EXCEEDING 8μΩ・cm
Y CONTENT (at%)
Ni CONTENT (at%)
OCCURRENCE OF HILLOCK
● ELECTRICAL RESISTIVITY IS 8μΩ・cm OR LESS, AND HEAT RESISTANCE OF 300℃ IS SATISFIED.
× ELECTRICAL RESISTIVITY EXCEEDS 8μΩ・cm OR HEAT RESISTANCE OF 300℃ IS NOT SATISFIED.

FIG. 28

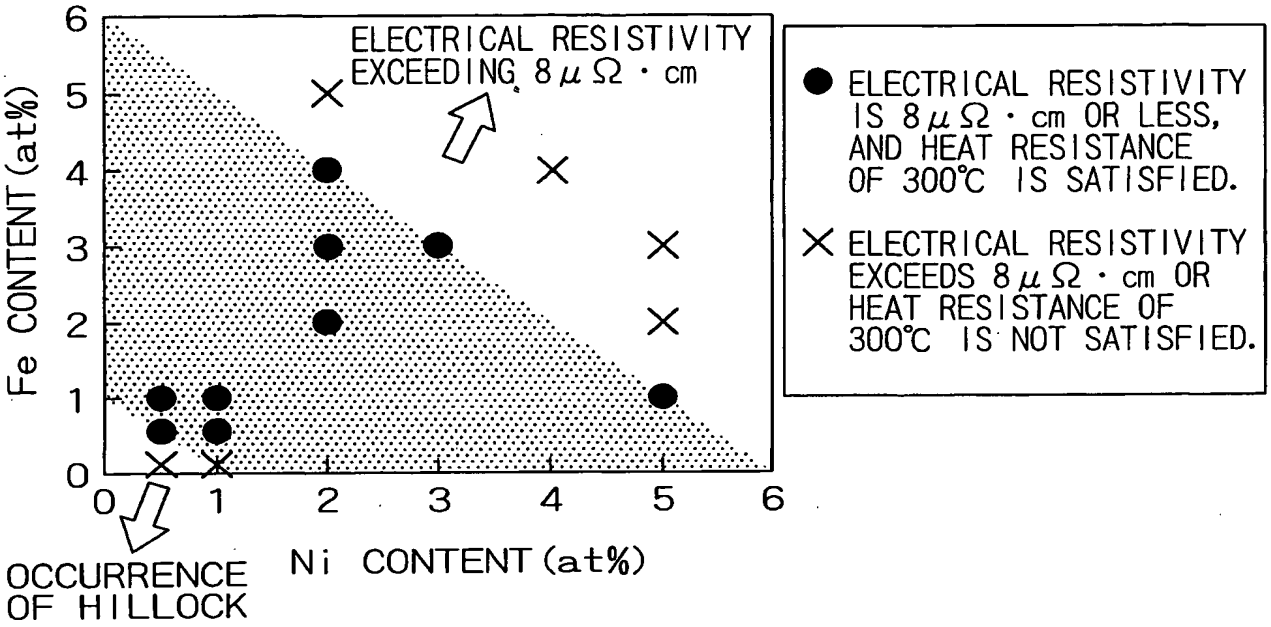

ELECTRICAL RESISTIVITY EXCEEDING 8μΩ・cm
Fe CONTENT (at%)
Ni CONTENT (at%)
OCCURRENCE OF HILLOCK
● ELECTRICAL RESISTIVITY IS 8μΩ・cm OR LESS, AND HEAT RESISTANCE OF 300℃ IS SATISFIED.
× ELECTRICAL RESISTIVITY EXCEEDS 8μΩ・cm OR HEAT RESISTANCE OF 300℃ IS NOT SATISFIED.

FIG. 29

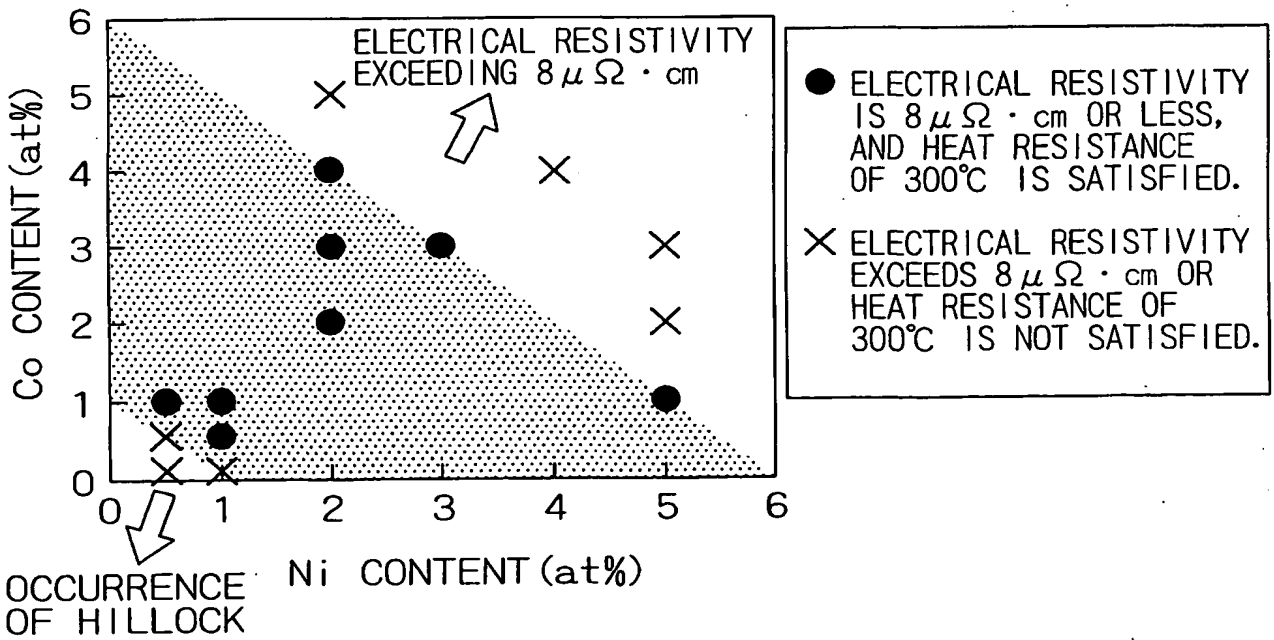

ELECTRICAL RESISTIVITY EXCEEDING 8μΩ・cm
Co CONTENT (at%)
Ni CONTENT (at%)
OCCURRENCE OF HILLOCK
● ELECTRICAL RESISTIVITY IS 8μΩ・cm OR LESS, AND HEAT RESISTANCE OF 300℃ IS SATISFIED.
× ELECTRICAL RESISTIVITY EXCEEDS 8μΩ・cm OR HEAT RESISTANCE OF 300℃ IS NOT SATISFIED.

FIG. 30

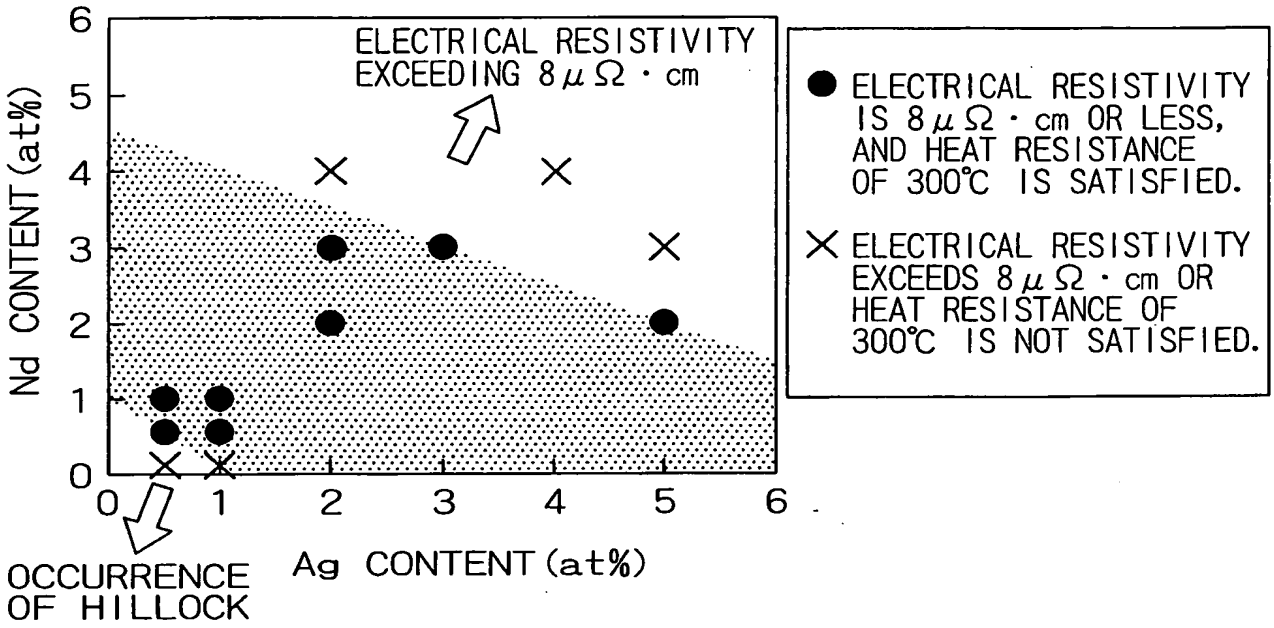

ELECTRICAL RESISTIVITY EXCEEDING 8μΩ・cm
Nd CONTENT (at%)
Ag CONTENT (at%)
OCCURRENCE OF HILLOCK
● ELECTRICAL RESISTIVITY IS 8μΩ・cm OR LESS, AND HEAT RESISTANCE OF 300℃ IS SATISFIED.
× ELECTRICAL RESISTIVITY EXCEEDS 8μΩ・cm OR HEAT RESISTANCE OF 300℃ IS NOT SATISFIED.

FIG. 31

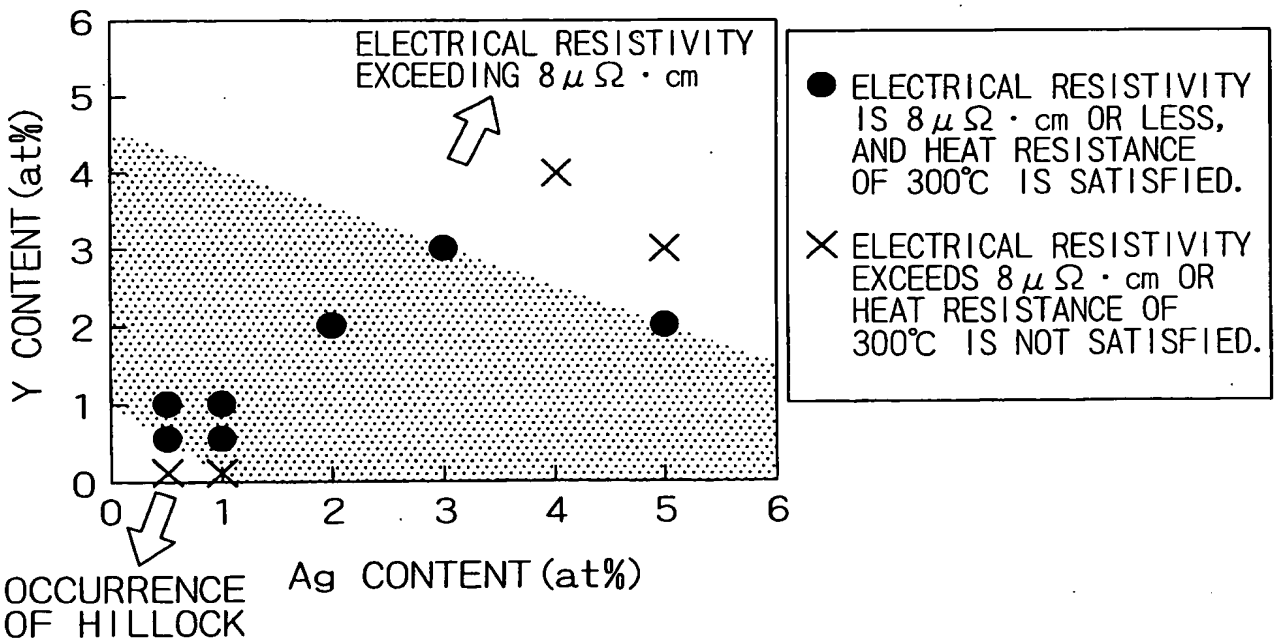

ELECTRICAL RESISTIVITY EXCEEDING 8μΩ・cm
Y CONTENT (at%)
Ag CONTENT (at%)
OCCURRENCE OF HILLOCK
● ELECTRICAL RESISTIVITY IS 8μΩ・cm OR LESS, AND HEAT RESISTANCE OF 300℃ IS SATISFIED.
× ELECTRICAL RESISTIVITY EXCEEDS 8μΩ・cm OR HEAT RESISTANCE OF 300℃ IS NOT SATISFIED.

FIG. 32

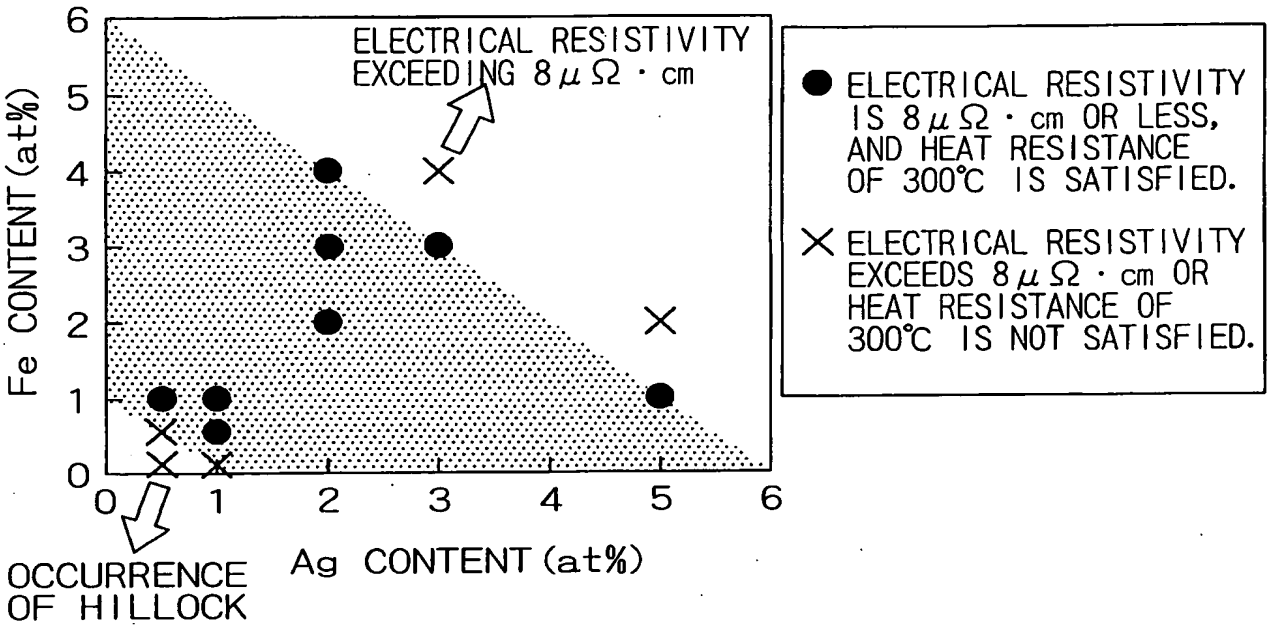

ELECTRICAL RESISTIVITY EXCEEDING 8μΩ・cm
Fe CONTENT (at%)
Ag CONTENT (at%)
OCCURRENCE OF HILLOCK
● ELECTRICAL RESISTIVITY IS 8μΩ・cm OR LESS, AND HEAT RESISTANCE OF 300℃ IS SATISFIED.
× ELECTRICAL RESISTIVITY EXCEEDS 8μΩ・cm OR HEAT RESISTANCE OF 300℃ IS NOT SATISFIED.

FIG. 33

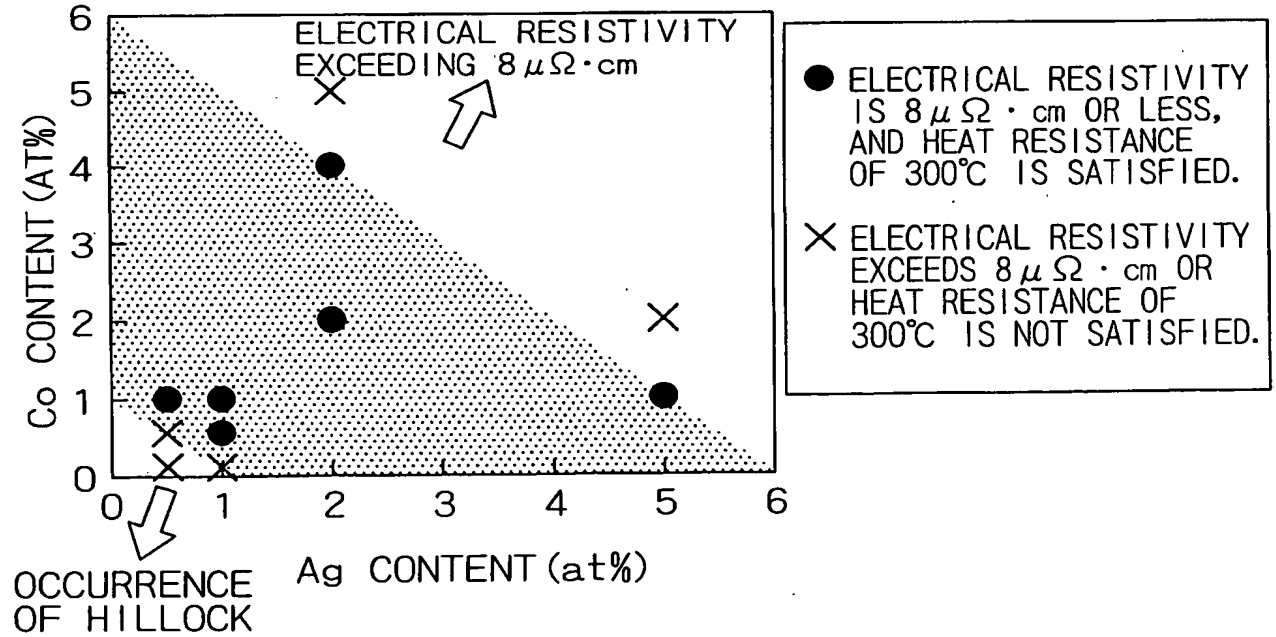

ELECTRICAL RESISTIVITY EXCEEDING 8μΩ・cm
Co CONTENT (AT%)
Ag CONTENT (at%)
OCCURRENCE OF HILLOCK
● ELECTRICAL RESISTIVITY IS 8μΩ・cm OR LESS, AND HEAT RESISTANCE OF 300℃ IS SATISFIED.
× ELECTRICAL RESISTIVITY EXCEEDS 8μΩ・cm OR HEAT RESISTANCE OF 300℃ IS NOT SATISFIED.

FIG. 34

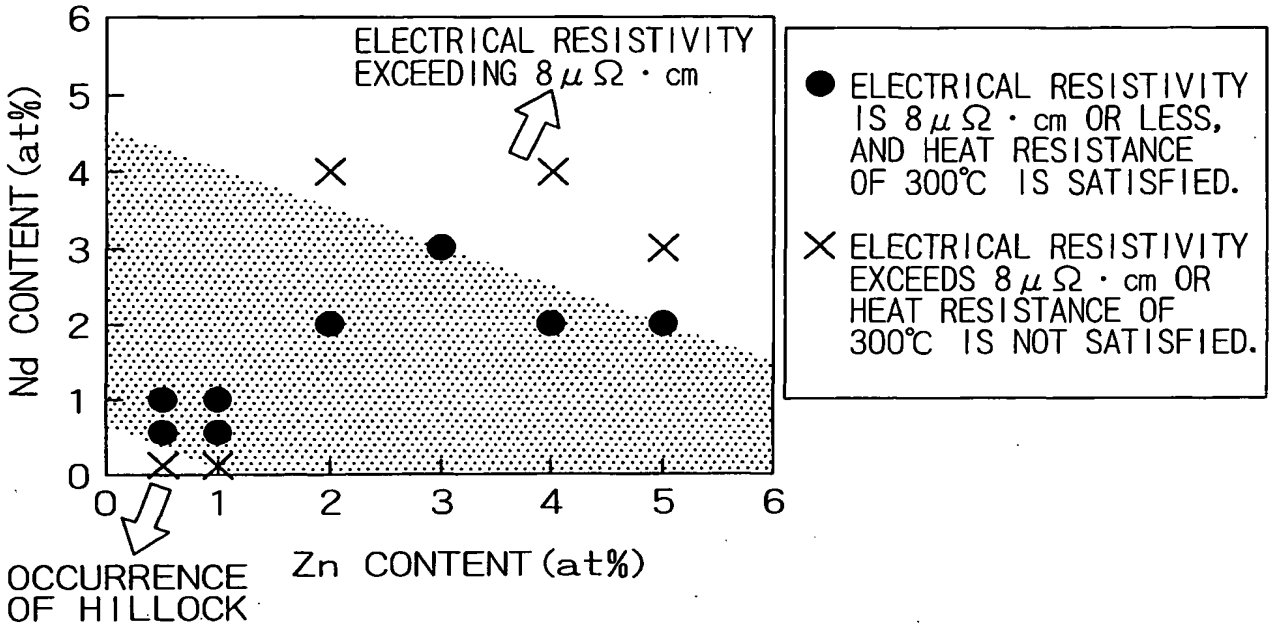

ELECTRICAL RESISTIVITY EXCEEDING 8μΩ・cm
Nd CONTENT (at%)
Zn CONTENT (at%)
OCCURRENCE OF HILLOCK
● ELECTRICAL RESISTIVITY IS 8μΩ・cm OR LESS, AND HEAT RESISTANCE OF 300℃ IS SATISFIED.
× ELECTRICAL RESISTIVITY EXCEEDS 8μΩ・cm OR HEAT RESISTANCE OF 300℃ IS NOT SATISFIED.

FIG. 35

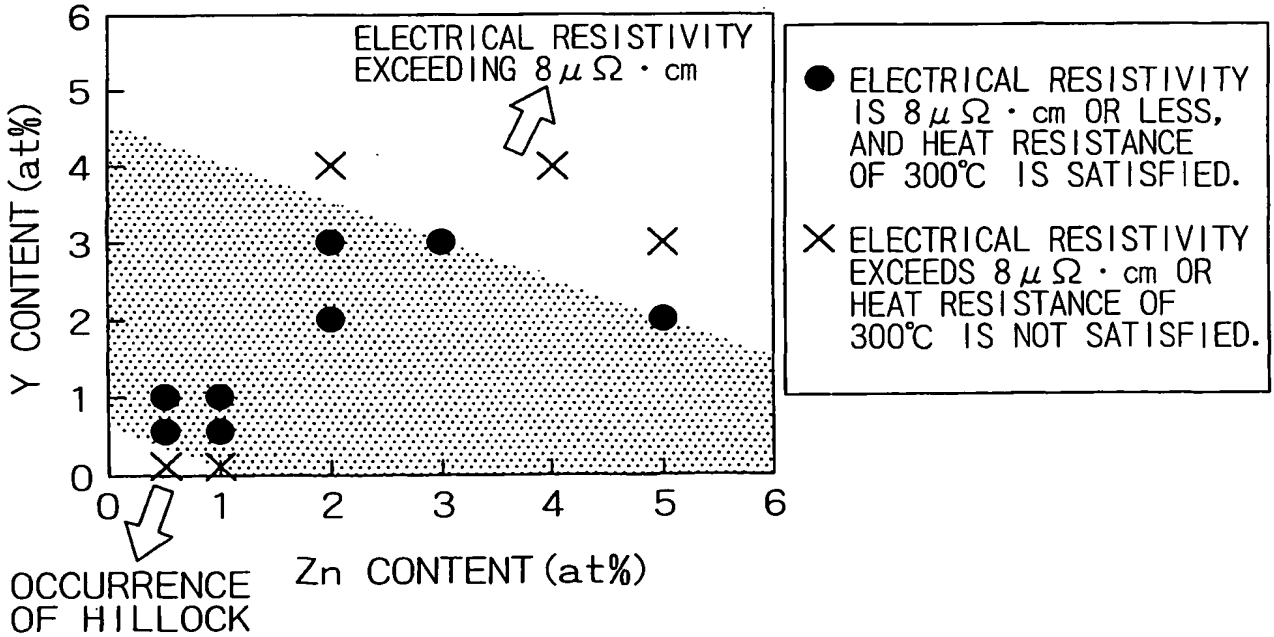

ELECTRICAL RESISTIVITY EXCEEDING 8μΩ・cm
Y CONTENT (at%)
Zn CONTENT (at%)
OCCURRENCE OF HILLOCK
● ELECTRICAL RESISTIVITY IS 8μΩ・cm OR LESS, AND HEAT RESISTANCE OF 300℃ IS SATISFIED.
× ELECTRICAL RESISTIVITY EXCEEDS 8μΩ・cm OR HEAT RESISTANCE OF 300℃ IS NOT SATISFIED.

FIG. 36

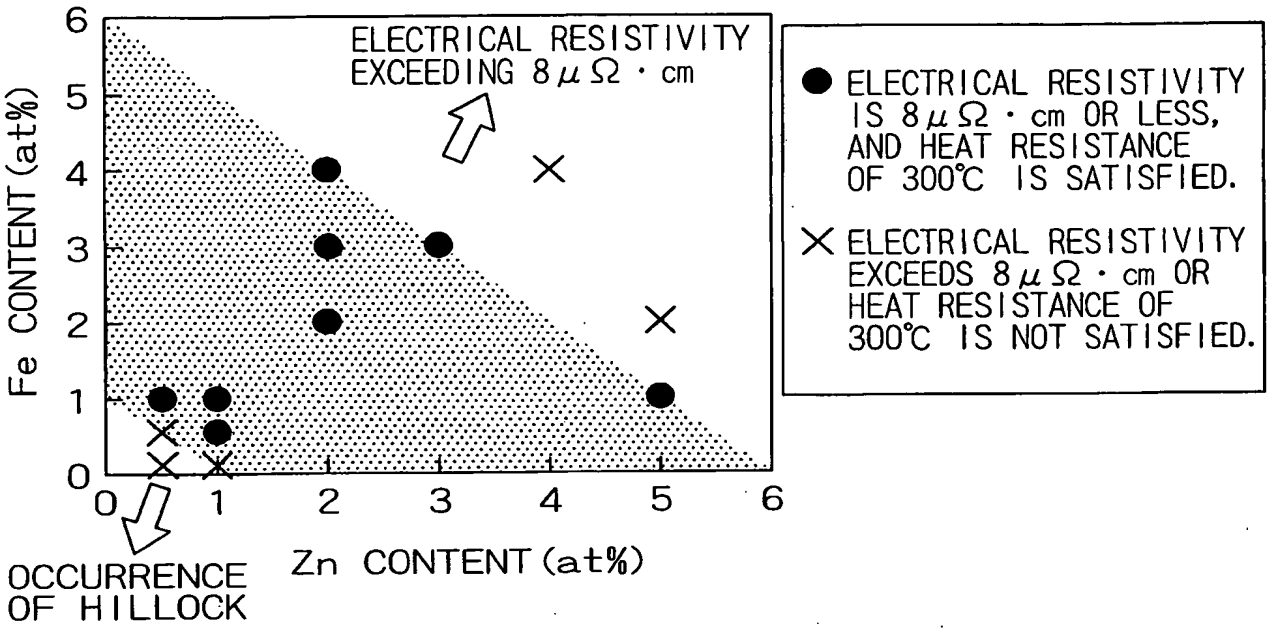

ELECTRICAL RESISTIVITY EXCEEDING 8μΩ・cm
Fe CONTENT (at%)
Zn CONTENT (at%)
OCCURRENCE OF HILLOCK
● ELECTRICAL RESISTIVITY IS 8μΩ・cm OR LESS, AND HEAT RESISTANCE OF 300℃ IS SATISFIED.
× ELECTRICAL RESISTIVITY EXCEEDS 8μΩ・cm OR HEAT RESISTANCE OF 300℃ IS NOT SATISFIED.

FIG. 37

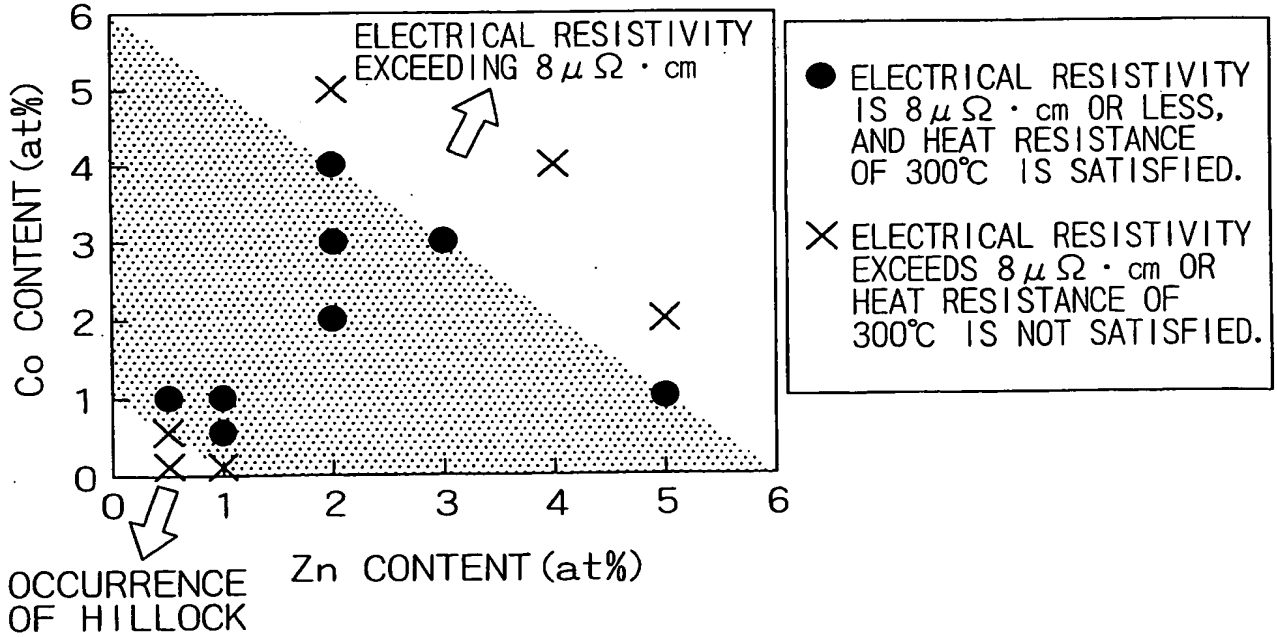

ELECTRICAL RESISTIVITY EXCEEDING 8μΩ・cm
Co CONTENT (at%)
Zn CONTENT (at%)
OCCURRENCE OF HILLOCK
● ELECTRICAL RESISTIVITY IS 8μΩ・cm OR LESS, AND HEAT RESISTANCE OF 300℃ IS SATISFIED.
× ELECTRICAL RESISTIVITY EXCEEDS 8μΩ・cm OR HEAT RESISTANCE OF 300℃ IS NOT SATISFIED.

FIG. 38

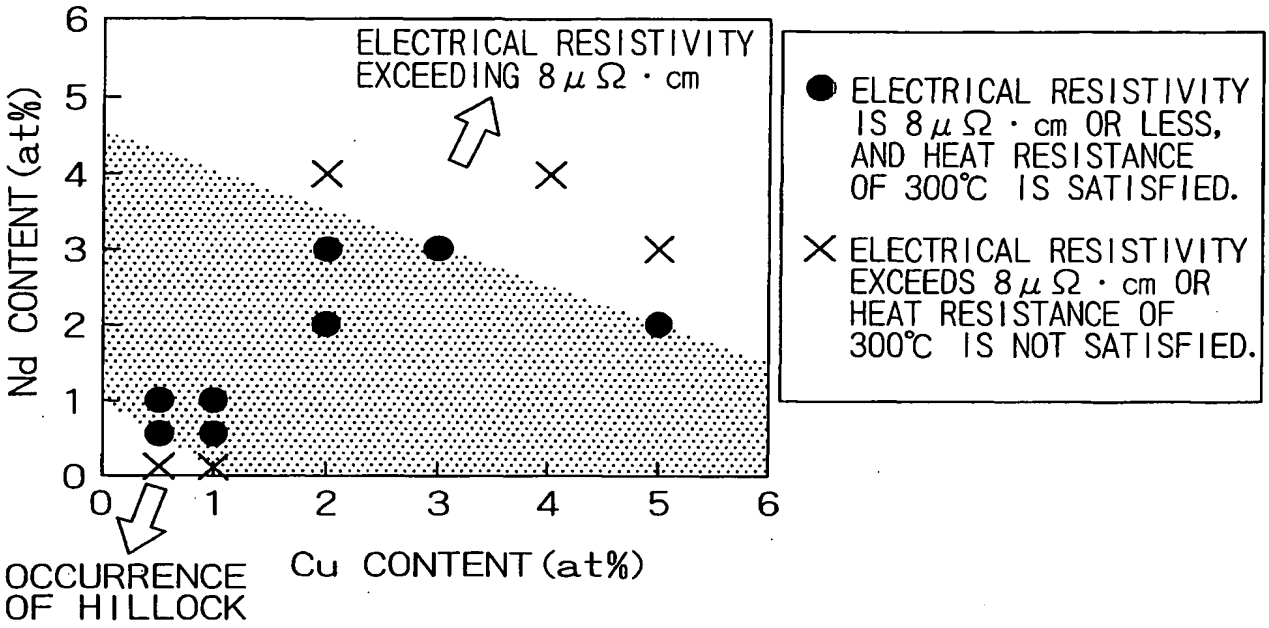

ELECTRICAL RESISTIVITY EXCEEDING 8μΩ・cm
Nd CONTENT (at%)
Cu CONTENT (at%)
OCCURRENCE OF HILLOCK
● ELECTRICAL RESISTIVITY IS 8μΩ・cm OR LESS, AND HEAT RESISTANCE OF 300℃ IS SATISFIED.
× ELECTRICAL RESISTIVITY EXCEEDS 8μΩ・cm OR HEAT RESISTANCE OF 300℃ IS NOT SATISFIED.

FIG. 39

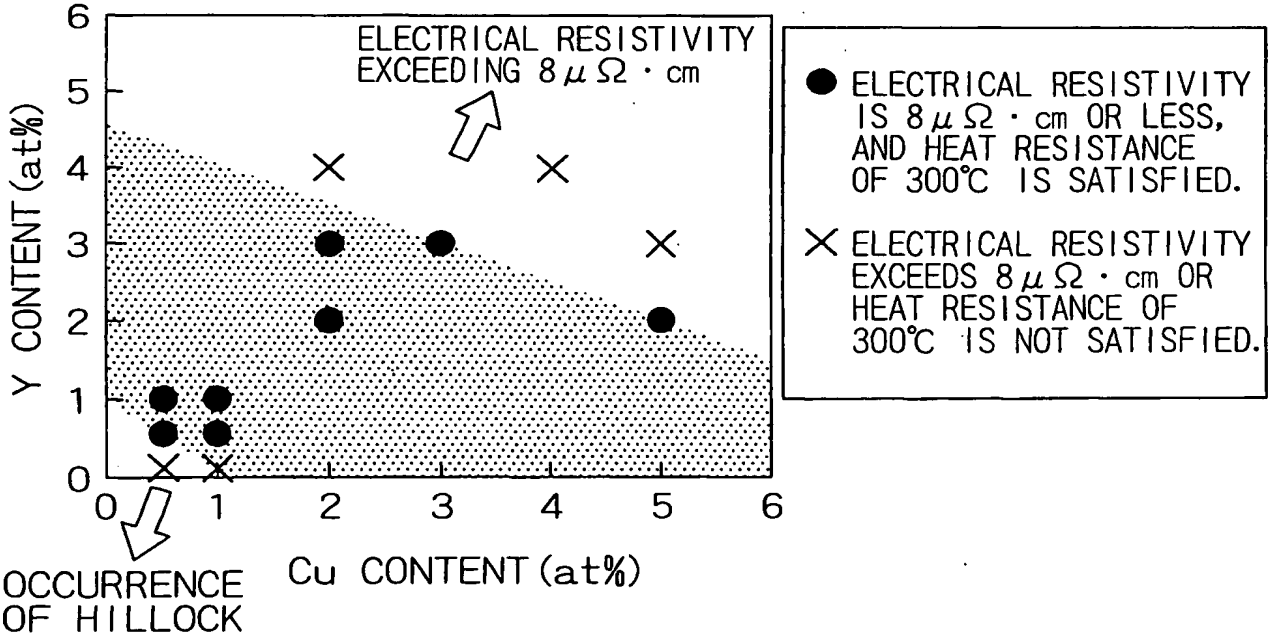

ELECTRICAL RESISTIVITY EXCEEDING 8μΩ・cm
Y CONTENT (at%)
Cu CONTENT (at%)
OCCURRENCE OF HILLOCK
● ELECTRICAL RESISTIVITY IS 8μΩ・cm OR LESS, AND HEAT RESISTANCE OF 300℃ IS SATISFIED.
× ELECTRICAL RESISTIVITY EXCEEDS 8μΩ・cm OR HEAT RESISTANCE OF 300℃ IS NOT SATISFIED.

FIG. 40

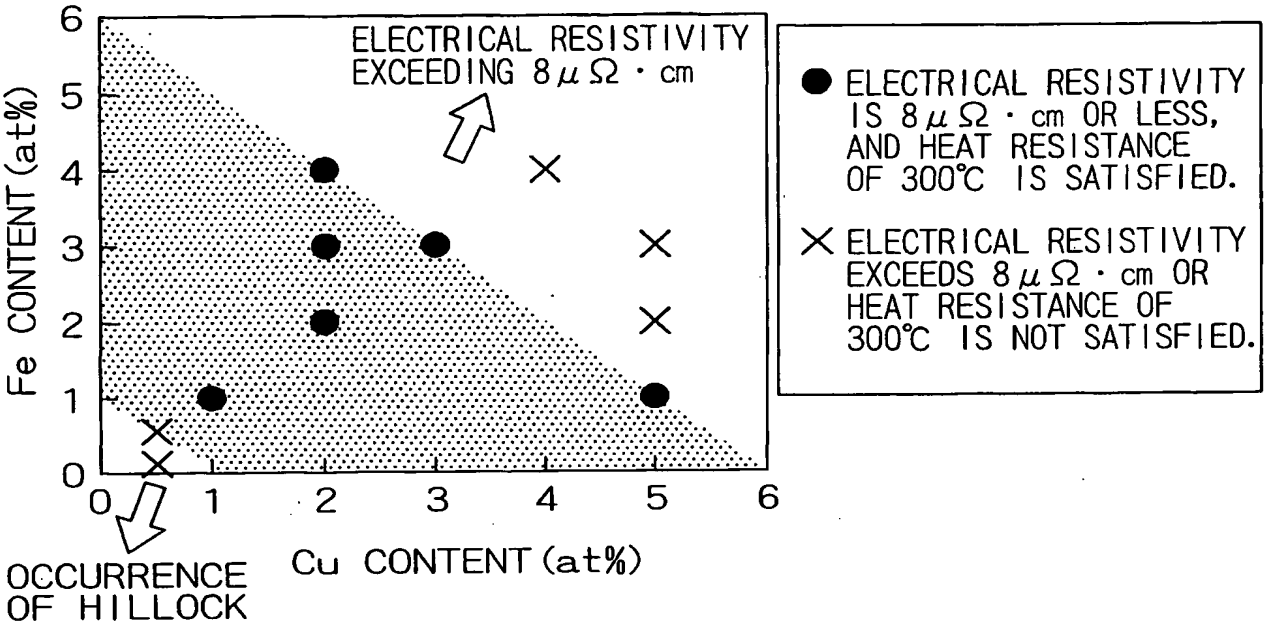
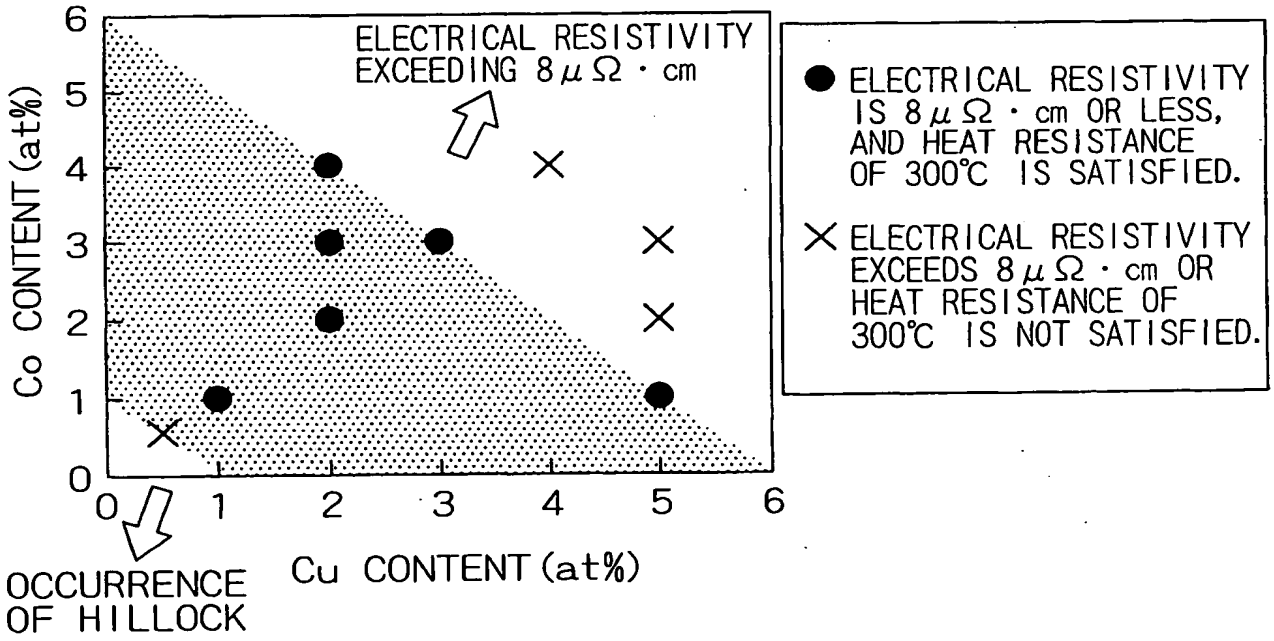

ELECTRICAL RESISTIVITY EXCEEDING 8μΩ・cm
Fe CONTENT (at%)
Cu CONTENT (at%)
OCCURRENCE OF HILLOCK
● ELECTRICAL RESISTIVITY IS 8μΩ・cm OR LESS, AND HEAT RESISTANCE OF 300℃ IS SATISFIED.
× ELECTRICAL RESISTIVITY EXCEEDS 8μΩ・cm OR HEAT RESISTANCE OF 300℃ IS NOT SATISFIED.

FIG. 41


ELECTRICAL RESISTIVITY EXCEEDING 8μΩ・cm
Co CONTENT (at%)
Cu CONTENT (at%)
OCCURRENCE OF HILLOCK
● ELECTRICAL RESISTIVITY IS 8μΩ・cm OR LESS, AND HEAT RESISTANCE OF 300℃ IS SATISFIED.
× ELECTRICAL RESISTIVITY EXCEEDS 8μΩ・cm OR HEAT RESISTANCE OF 300℃ IS NOT SATISFIED.